

Machinespeak & The Matrix

LECTURE
SUMMARY

PRE-PROGRAMMING

Covered in this lecture:

The language of computers

- ▶ Computers have their own language called machine code, which is really hard to understand for humans
- ▶ Peripherals and other devices communicate through machine code
- ▶ The simplest version of machine code consists of 0s and 1s (beeps and boops), also called a binary system
1 = Yes, 0 = No
- ▶ The motherboard transfers messages to the processor by sending electricity through the wires in the board
- Letting electricity go is a 1 and stopping it is a 0
- In a second, it can send close to a million 0s and 1s
- The original computers were giant tubes, and they were using air instead of electricity (not that efficient)

- ▶ **There is a spectrum of programming code, from low level to high level code**
- Low level code:
 - used by basic system and basic pieces of hardware
 - long, inefficient, hard to read or write
 - infinitely customizable
 - machinespeak is the ultimate low level code
- Mid level code:
 - used by peripherals
 - slightly higher level than 0s and 1s
 - peripherals might require a driver to be installed
 - a driver is an interpreter that translates your input for your system
- High level code:
 - used by programmers
 - designed to make things faster
 - shorter, easier to read
 - less descriptive and more restricted

See you next lecture!